

Appl. No.: 10/626,903
Amdt. dated: 05/23/2006
Reply to Office action of: 02/24/2006

REMARKS / ARGUMENTS

In the Office action of February 24, 2006, claims 1-3, 6-8, 11-13 and 16-18 were rejected and claims 4, 5, 6, 10, 14, 15, 19 and 20 were objected to. The applicants acknowledge the allowability of claims 4, 5, 6, 10, 14, 15, 19 and 20 and request reconsideration of the rejection of claims 1-3, 6-8, 11-13 and 16-18.

Claims 1-3, 6-8, 11-13 and 16-18 stand rejected under 35 U.S.C. 103(a) as unpatentable over Hollman, U.S. Patent No. 6,198,199 (Hollman) in view of Peters et al., U.S. Patent No. 6,002,263 (Peters). With regard to claims 1, 6, 11 and 16, the office action asserts that Hollman discloses an enclosure for a probe station thermal chuck comprising a conductive wall (27) having an inner surface defining a chamber substantially enclosing the device supporting surface of the chuck, but concedes that Hollman fails to disclose an enclosure that includes a wall portion separating the device supporting surface of the chuck from the thermal device included in the chuck or from an electrical conductor conducting energy from a controller to a thermal device included in the chuck. However, the office action asserts that the enclosure (12) of Peters partially encloses the chuck element and separates the "remainder of the probe station from environmental noise sources such as thermal heaters" and, therefore, it would be obvious to incorporate the teaching "of separating the device supporting surface from the thermal heater as taught by Peters et al. into Hollman probe station apparatus so that Hollman's conductive wall includes the portion separating the device supporting surface from the thermal chuck for the expected benefit of intercepting the external environmental noise and minimizing its effect on the inner shield and the chuck assembly enclosed by the inner shield as disclosed by Peters (col. 2, line(s) 6-9)." The applicants respectfully submit that claim 1 is not obvious from the combination of Hollman and Peters because neither discloses a probe station enclosure comprising a conductive wall defining a chamber substantially enclosing the device supporting surface and having a portion that separates the device supporting surface of the chuck from a thermal device included in the chuck to modify the temperature of the device supporting surface. Moreover, the applicants respectfully submit that neither Hollman nor Peters suggest or provide a motivation for such an enclosure.

Both Hollman and Peters teach the use of an enclosure comprising a conductive wall to

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shield a volume enclosed by the enclosure from electromagnetic noise originating in the environment outside of the enclosed volume. Hollman discloses a single enclosure (vacuum chamber 26) but Peters teaches that a single enclosure may be inadequate when making very sensitive measurements (col. 1, line(s) 16-19) and discloses a second, inner enclosure 52 within the outer enclosure 12. The inner enclosure is shielded by the outer enclosure and, in turn, shields the volume that it encloses from spurious currents resulting from the exposure of the outer enclosure to electromagnetic interference such as electrostatic noise currents originating in the environment external to the outer enclosure (col. 1, line(s) 32 -37) (col. 4, line(s) 8 -13). The applicants respectfully submit that both Hollman and Peters teach that a conductive enclosure will intercept environmental noise originating from sources; for examples, cables, switches, heaters (Peters, (col. 3, line(s) 15-17)) external to the enclosure. However, the chucks 14 of both Hollman and Peters including the device supporting surfaces of the chucks and any thermal devices included in the chucks are located wholly within the innermost enclosure of the respective probe station.

Hollman specifically teaches that a thermal chuck 14 may be employed within the shielding vacuum chamber (col. 3, line(s) 61-62). Peters, on the other hand, describes a chuck comprises a plurality of elements, insulated from each other and respectively connected to the conductors of a triaxial cable (col. 3, line(s) 17-54), but is silent about the presence or potential effects at the device supporting surface of thermal units within the chuck and discloses a probe station in which all of the components of chuck 14 are located within the innermost enclosure. More specifically, the applicants respectfully submit that Peters does not suggest separating the device supporting surface 42a of the chuck from any other element of the chuck with a portion of the wall of either the inner or the outer enclosure. The applicants respectfully submit that while Hollman and Peters both teach the use of conductive enclosures to intercept and minimize the effect of noise originating external to the enclosure, neither disclose or suggest that noise originating within a chuck may couple to the device supporting surface and neither suggests separating a thermal unit included in the chuck from the device supporting surface with a conductive wall of a shielding enclosure. The applicants submit that that claim 1 is not obvious from Hollman and Peters because the references do not teach all of the claim limitations or suggest or provide a motivation for modifying their disclosures to teach all of the claim

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limitations. The applicants respectfully request withdrawal of the rejection and the allowance of claim 1.

With regard to claim 6, the applicants respectfully submit that the claim is dependent from claim 1 and incorporates all of the limitations of claim 1. Since claim 1 is not obvious from the combination of Peters and Hollman, for the reasons stated above, neither is claim 6. Moreover, the office action concedes that Hollman fails to disclose an enclosure that includes a wall portion separating the device supporting surface of the chuck from an electrical conductor conducting energy from a controller to a thermal device included in the chuck and the applicant respectfully submits that Peters does not disclose a conductor conducting electrical energy to a device within the chuck and does not suggest that a wall of a shielding enclosure separate such a conductor from the device supporting surface of the chuck. The applicants respectfully request withdrawal of the rejection and the allowance of claim 6.

With regard to claim 11, the applicants respectfully submit that, in addition to the reasons stated above, neither Hollman nor Peters discloses or suggests, and the office action does not identify such a disclosure by either Hollman or Peters, an enclosure comprising a conductive wall that includes an inner surface having a portion separating the thermal device of a probe station chuck from the device supporting surface of the chuck and an outer surface that substantially encircles a portion of the thermal device. The applicants respectfully request withdrawal of the rejection and the allowance of claim 11.

With regard to claim 16, the applicants respectfully submit that the claim is dependent from claim 11 and incorporates all of the limitations of claim 11. Since claim 11 is not obvious from the combination of Peters and Hollman, for the reasons stated above, neither is claim 16. Moreover, the applicants respectfully submit that neither Hollman nor Peters discloses an enclosure having an outer surface that substantially encircles a portion of an electrical conductor conducting energy to a thermal device included in a chuck. The applicants request withdrawal of the rejection and the allowance of claim 16.

With regard to claims 2, 3, 7, 8, 12, 13, and 16-18, the applicants submit that the claims are dependent from claim 1 or claim 11, or a claim dependent from claim 1 or claim 11, and inherit all of the limitations of the claims from which each respectively depends. The applicants respectfully submit that since claims 1 and 11 is not obvious from Peters and Hollman for the

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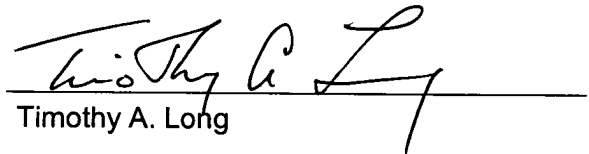
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reasons stated above, claims 2, 3, 7, 8, 12, 13, and 16-18 are not obvious from Peters and Hollman for the same reasons. The applicants respectfully request withdrawal of the rejection and allowance of claims 2, 3, 7, 8, 12, 13, and 16-18.

The applicant respectfully requests that a timely Notice of Allowance be issued in this case. If the Examiner believes that for any reason direct contact with applicant's attorney would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the number below.

Respectfully submitted,
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